IN THE CLAIMS

Kindly cancel claims 1-20 without prejudice and insert the following new claims 21-71.

1-20 (Canceled).

21. (New) An apparatus for the application of coatings in a vacuum, comprising:

a plurality of substantially opposed cathode chamber pairs, each cathode chamber containing a cathodic arc source and being disposed along a plasma duct in communication with each of the cathode chambers and in communication with a coating chamber containing a substrate holder for mounting substrates to be coated, the substrate holder being positioned off of an optical axis of the cathodic arc source,

at least one anode associated with each cathodic arc source for generating an arc discharge,

a deflecting system for deflecting a flow of plasma through the plasma duct toward the substrate chamber, and

a plurality of magnetic isolating coils each disposed about the plasma duct between cathode chamber pairs, transversely relative to the plasma duct and relative to a direction of the cathodic arc flow through the plasma duct,

wherein when an isolating coil is activated a flow of plasma is confined by the isolating coil.

22. (New) The apparatus of claim 21 wherein one or more of the isolating coils is surrounded by an anode.

23. (New) The apparatus of claim 21 wherein the isolating coils can be activated independently to selectively confine the plasma within a cell formed between activated isolating coils for a selected interval.

24. (New) The apparatus of claim 22 in which the isolating coils are activated in sequence along the plasma duct in the direction transversal to the direction of plasma flow

25. (New) The apparatus of claim 21 wherein at least some of the cathodic arc sources are impulse cathodic arc sources.

26. (New) The apparatus of claim 24 wherein the impulse cathodic arc sources are activated in sequence along the plasma duct.

27. (New) A method of coating an article in a coating apparatus comprising a plurality of substantially opposed cathode chambers each supporting a cathodic arc source and being disposed along an elongated plasma duct in communication with the cathode chambers, at least one anode associated with each cathodic arc source, a plurality of magnetic isolating coils each disposed transversely relative to the plasma duct between cathode chamber pairs, and a coating chamber in communication with an end of the plasma duct, the method comprising the steps of:

a. generating an arc between the cathodic arc source and its associated anode to create a plasma of cathodic evaporate, and

b. selectively activating the isolating coils to confine the plasma within a cell formed between isolating coils for a selected interval.

28. (New) The method of claim 27 in which the isolating coils are activated in sequence, to raster the magnetic fields along the plasma duct.

29. (New) The method of claim 27 wherein at least some of the cathodic arc sources are impulse cathodic arc sources.

30. (New) The method of claim 29 wherein the impulse cathodic arc sources are activated in sequence along the plasma duct.

31. (New) The method of claim 29 wherein a directed kinetic energy of an ion component of the plasma exceeds a chaotic average kinetic energy of an electron component of the plasma.

32. (New) A method of coating an article in a coating apparatus comprising a plurality of substantially opposed cathode chambers each supporting a cathodic arc source and being disposed along an elongated plasma duct in communication with the cathode chambers, at least one anode associated with each cathodic arc source, a plurality of magnetic isolating coils each disposed transversely relative to the plasma duct between cathode chamber pairs, and a

coating chamber in communication with an end of the plasma duct, the method comprising the steps of:

a. generating an arc between the cathodic arc source and its associated anode to create a plasma of cathodic evaporate, and

b. selectively activating the isolating coils to confine the plasma within a cell formed between isolating coils for a selected interval.

33. (New) The method of claim 32 in which the isolating coils are activated in sequence, to raster the magnetic fields along the plasma duct.

34. (New) The method of claim 32 wherein at least some of the cathodic arc sources are impulse cathodic arc sources.

35. (New) The method of claim 34 wherein the impulse cathodic arc sources are activated in sequence along the plasma duct.

36. (New) The method of claim 34 wherein a directed kinetic energy of an ion component of the plasma exceeds a chaotic average kinetic energy of an electron component of the plasma.

37. (New) An apparatus for the application of coatings in a vacuum, comprising:

at least one plasma source comprising a cathode contained within a cathode chamber,

at least one proximal anode associated with the cathode for generating an arc discharge,

a plasma duct in communication with the cathode chamber and with a coating chamber containing a substrate holder for mounting substrates to be coated, the substrate holder being positioned off of an optical axis of the cathode, and

at least one auxiliary anode disposed downstream of the plasma source for generating an auxiliary arc discharge.

38. (New) The apparatus of claim 37 comprising a deflecting conductor positioned adjacent to the plasma duct for generating a deflecting magnetic field for deflecting plasma from the optical axis of the cathode toward the coating chamber.

39. (New) The apparatus of claim 38 comprising a focusing conductor positioned adjacent to the plasma duct for generating a focusing magnetic field for focusing plasma entering the coating chamber.

40. (New) The apparatus of claim 39 wherein the deflecting magnetic field and the focusing magnetic field overlap.

41. (New) The apparatus of claim 40 wherein the auxiliary anode is disposed near a position where a tangential component of the magnetic fields is strongest.

42. (New) The apparatus of claim 41 wherein the auxiliary anode comprises a generally planar conductive plate.

43. (New) The apparatus of claim 42 wherein the auxiliary anode comprises a plurality of baffles.

44. (New) The apparatus of claim 41 wherein the auxiliary anode comprises a portion substantially parallel to the optical axis of the cathode.

45. (New) The apparatus of claim 37 comprising a plurality of cathode chambers disposed on opposed sides of the plasma duct.

46. (New) The apparatus of claim 37 in which the auxiliary anode is disposed within the coating chamber.

47. (New) The apparatus of claim 46 in which the auxiliary anode is disposed adjacent to the substrate holder opposite the plasma duct.

48. (New) The apparatus of claim 46 in which a plurality of auxiliary anodes are disposed within the coating chamber.

49. (New) The apparatus of claim 48 in which the auxiliary anodes are disposed adjacent to walls of the coating chamber.

50. (New) The apparatus of claim 49 in which one or more auxiliary anodes is associated with a magnetic deflecting coil adjacent to the anode.

51. (New) The apparatus of claim 50 in which at least one of the auxiliary anodes is disposed tangentially to the magnetic force lines generated by the deflecting magnetic coil.

52. (New) The apparatus of claim 50 in which at least one of the auxiliary anodes is disposed transversely to the magnetic force lines generated by the deflecting magnetic coil.

53. (New) The apparatus of claim 47 in which at least one magnetron arc source is disposed within the coating chamber.

54. (New) The apparatus of claim 53 in which the auxiliary anode is associated with the magnetron arc source such that an arc discharge is generated between the cathode and the auxiliary anode associated with the magnetron arc source.

55. (New) The apparatus of claim 54 comprising a plurality of auxiliary anodes.

56. (New) The apparatus of claim 55 in which each auxiliary anode is associated with a magnetron arc source.

57. (New) An apparatus for the application of coatings in a plasma-immersed environment, comprising:

a first plasma source comprising a first cathode contained within a cathode chamber and associated with an anode for generating an arc discharge between the anode and the first cathode,

a plasma duct in communication with the cathode chamber and with a coating chamber containing a substrate holder for mounting substrates to be coated, the substrate holder being positioned off of an optical axis of the first cathode,

a second plasma source comprising a second cathode in communication with the coating chamber and associated with an anode for generating an arc discharge between the anode and the second cathode, and

a deflecting system for directing a flow of plasma to the coating chamber,

wherein the deflecting system can be deactivated while the first arc source is activated so that plasma from the first cathode does not flow into the coating chamber but electrons emitted from the first cathode flow into the coating chamber.

58. (New) The apparatus of claim 57 comprising a repelling electrode disposed in the plasma duct near a position where a tangential component of a magnetic field within the plasma duct is strongest.

59. (New) The apparatus of claim 58 comprising at least one focusing conductor positioned adjacent to the plasma duct between the deflecting system and the coating chamber for generating a focusing magnetic field which focuses plasma from the first cathode entering the coating chamber.

60. (New) The apparatus of claim 58 comprising at least one load lock shutter comprising a metallic grid disposed between the plasma duct and the coating chamber.

61. (New) The apparatus of claim 60 in which the load lock shutter is negatively biased to accelerate ions toward the coating chamber.

62. (New) The apparatus of claim 58 comprising at least one anode disposed within the coating chamber and a magnetron arc source disposed within the coating chamber.

63. (New) The apparatus of claim 58 wherein the second arc source is contained within a second cathode chamber and comprising a second plasma duct in communication with the second cathode chamber and with a coating chamber.

64. (New) A method of coating a substrate in a plasma-immersed environment, comprising the steps of:

a. activating a first plasma source comprising a first cathode contained within a cathode chamber in communication with a coating chamber containing a substrate holder, the substrate holder being positioned off of an optical axis of the first cathode,

b. activating a second plasma source comprising a second cathode in communication with the coating chamber, and

c. selectively deactivating a deflecting system that directs plasma from the first cathode into the coating chamber so that substantially only electrons emitted from the first cathode flow into the coating chamber.

65. (New) The method of claim 64 comprising the further step of closing a load lock shutter comprising a metallic grid disposed between the first plasma source and the coating chamber upon deactivation of the deflecting system.

66. (New) The method of claim 64 wherein the second plasma source is a magnetron arc source.

67. (New) An apparatus for the application of coatings in a vacuum, comprising:

a pair of cathode chambers,

at least one filtered arc source comprising at least one cathode contained within each cathode chamber,

at least one anode associated with each cathode for generating an arc discharge,

a main plasma duct in communication with a coating chamber containing a substrate holder for mounting substrates to be coated, the main plasma duct containing at least one main deflecting electrode,

a filtered plasma duct in communication with each cathode chamber and in communication with the main plasma duct, the main plasma duct being positioned off of an optical axis of each cathode chamber and each filtered plasma duct being positioned off of an optical axis of the coating chamber,

the filtered plasma ducts each containing at least one second deflecting electrode electrically insulated from the filtered plasma duct and disposed adjacent to one or more walls of the filtered plasma duct that are not occupied by the cathode, and

at least one deflecting conductor disposed adjacent to each plasma source and filtered plasma duct,

wherein plasma generated by each plasma source is deflected by each filtered deflecting electrode through each filtered plasma duct and then deflected by the main deflecting electrode through the main plasma duct to the coating chamber.

68. (New) The apparatus of claim 67 further comprising at least one repelling electrode connected to the positive pole of a current source and disposed along the main plasma duct at a position between the deflecting electrode and the coating chamber.

69. (New) The apparatus of claim 68 wherein the repelling electrode is disposed in the main plasma duct near a position where a tangential component of a magnetic field within the main plasma duct is strongest.

70. (New) The apparatus of claim 67 comprising at least one focusing conductor positioned adjacent to the main plasma duct between the main deflecting electrode and the coating chamber for generating a focusing magnetic field which focuses plasma from the main plasma duct entering the coating chamber.

71. (New) The apparatus of claim 67 further comprising an auxiliary anode disposed near a junction of each filtered plasma ducts and the main plasma duct.